

THE INFORMATION STRUCTURE OF IMPERATIVES

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1. The Imperative Puzzle

Two well-known properties unique to the imperative clause type are the following: (i) In the unmarked case, the subject of an imperative (ImpSubj) is null, even in a non-null subject language like English, and (ii) the ImpSubj always refers to the addressee. These properties have been used to account for the fact that when there is no overt subject in an imperative clause, there must be a null subject (*pro*), and, moreover, this null subject must be specified as 2nd person because it can bind a 2nd person DP, but not a 1st or 3rd person one 0(1). The fact that the ImpSubj always refers to the addressee accounts for the fact that even when the ImpSubj is an overt third person DP, such as *everyone*, it can bind a 2nd person DP (1). This is not normally the case for other clause types, as shown by the contrast between (1) and (1).¹

- (1) a. *pro* introduce **yourself/*herself/*myself**.
b. **Everyone_i** remain in **your_i** seat.
c. ***Everyone_i** will remain in **your_i** seat.

These two properties are well-known, and intuitively seem to be connected although it is unclear how. Our goal in this paper is to do just that – explain the connection between the preference for null subjects, and the fact that imperative subjects must have a second person referent. Our point of departure is the hypothesis that Information Structure (IS) is key to understanding the relation between these properties of ImpSubjs. More specifically, we propose that ImpSubjs are *always* topics, and that the choice between a null and overt ImpSubj is determined by the ImpSubj's IS properties: Overt ImpSubjs are shifted (new) topics while null ImpSubjs are dropped topics. We will argue that there are two factors that are responsible for the fact that ImpSubjs are always topics: (i) the inherent topicality of Speech Act participants; and (ii) the distinctive semantic properties of the imperative clause type.

This paper is organized as follows: In section 2 we briefly explain what a topic is, and introduce essentials of Erteschik-Shir's (1997, 2007) F-structure theory of IS that we assume in our analysis; in section 3 we provide support for our proposal that all ImpSubjs are topics, in section 4 we argue that null ImpSubjs are dropped topics, and in section 5 we conclude.

¹ Imposters, such as *yours truly* and *your highness* are exceptional 3rd person DPs that have a 1st or 2nd person referent that can be used in any clause type, cf. Collins and Postal 2012 for discussion.

2. About Topics

We begin by discussing our assumptions about topics, the information structure notion that is central to our analysis. Simply put, the *topic* is what the sentence is about. We adopt Erteschik Shir's (1997, 2007) F-structure theory, according to which *all* sentences have a topic because the topic is the pivot for truth value assessment. Her theory is based on a modified version of Reinhart's (1981) file card system in which each individual mentioned in the discourse is represented as a file card. The card for a given individual will be updated whenever more information about that individual is added in the course of the conversation.

According to Erteschik-Shir, *topic* status is assigned to cards in the system by an *F-structure topic rule*, which simply instructs the hearer to locate on the top of their file an existing card with the appropriate reference. Any card that is already on the top of the file can serve this purpose. This is illustrated in the conversation in (2):

- (2) A: Tell me about **John**.
 B: **He** isn't from around here.

In this example, A introduces John into the conversation, which makes him available as the topic of B's contribution. When B uses a pronoun to refer to John, s/he is continuing the discourse with the same topic. Thus, *he* in B's utterance is an example of a continued topic. As a result of B's contribution, the file card for this topical individual will be updated with the information that he isn't from around here.

Focus interacts with topic in systematic ways. Like topic status, focus status is assigned to file cards by an F-structure rule. In fact, Erteschik-Shir proposes two different focus rules. Choice between them depends on whether the focus is a new referent in the discourse (realized as an indefinite DP) or a familiar one (realized as a definite DP). The focus rule for indefinite DPs, instructs the addressee to open a new card, put it on the top of the file, and assign it a new label. The focus rule for definite DPs instructs the addressee locate an existing card and put it on the top of the file.

It should be emphasized that according to F-structure theory, topic and focus status may be assigned to the same file card. Topics that are subject only to the topic rule are either *continued* or *default* topics. As noted above, *he* in (2) is an example of a continued topic because this pronominal DP refers to John, a topic already established in the discourse. We defer discuss of default topics to section 4 below, where we argue that different clause types have different defaults, and specifically that the default topic of an imperative is the addressee. We note here only that continued/shifted topics are typically realized as null or unstressed pronouns.

Topics that are subject to both topic and focus rules are *shifted* topics. As the name suggests, they serve to change the topic of conversation to a different individual. Not surprisingly, shifted topics are normally realized as full DPs. Erteschik-Shir identifies two subtypes of shifted topics that will be relevant for our discussion of ImpSubjs – contrastive and restrictive topics. A *contrastive* topic, refers to a previously established topic *set*, picks out a partition, and contrasts it with the other set partitions. For example:

- (3) A: What can you tell me about your brothers, **John** and **Sam**?
 B: **JOHN** is the smart one.

The topic set *your brothers* is established by conversational participant A's question. Conversational participant B's response picks out the partition *John* and contrasts it with the other partition *Sam*, thereby introducing a contrastive topic. If it is true that John is the smart one, it has to be false that Sam is smart. When a contrastive topic is identified, the alternatives are eliminated as topics for further conversation. For example, after B's reply, *John* takes center stage. From this point on, the expected course of conversation, unless explicitly changed by the conversational participants, is to be concerned with John.

The F-structure representation of the contrastive topic requires the application of both the topic rule and a focus rule. The topic rule locates a topic (set) which is already at the top of the stack. In (3), this is the set of brothers. The focus rule shifts the topic by focusing on one of its partitions, i.e. picking a partition and establishing it as the new topic. In our example, this partition is *John*.

Contrastive topics have two identifying characteristics: First, the members of the topic set are exhaustively defined, and second, the contrastive topic bears a contrastive pitch accent. This is a high pitch on the stressed syllable preceded by a low tone, resulting in a steep rise to the peak, marked as L+H*, (Pierrehumbert and Hirschberg 1990; Watson, Tanenhaus, and Gunlogson, 2008). In (3) above, the topic set consists of John and Sam, and the contrastive stress on John is indicated by the upper case transcription.

The second type of shifted topic we consider is *a restrictive topic*. Like a contrastive topic, a restrictive one partitions a contextually established topic set. However, unlike a contrastive topic, a restrictive one does not require an exhaustively defined topic set, and it does not eliminate alternatives. For example:

- (4) A: What can you tell me about your brothers?
 B: **John** is the smart one (... and **Sam** is the handsome one).

The topic set in (4) is not exhaustively defined yet B's reply is felicitous. Also, choosing one partition, *John*, as a restriction of the topic set, does not eliminate the alternative *Sam* as another topic in the immediate continuation. Note also, that restrictive topics also differ prosodically in that they do not bear contrastive stress/accent.²

The F-structure representation of the restrictive topic, like a contrastive one, requires the application of both the topic rule and a focus rule. The topic rule locates a topic (set) which is already at the top of the stack. The focus rule shifts the topic by focusing on one member, and establishing it as the new topic. In (4), B's brothers constitute the topic set, and *John* the focal member of that set.

² The exact nature of the pitch accent of restrictive topics is beyond the scope of this paper and not important for our purposes. The important point is that contrastive topics differ from restrictive ones, both IS-wise and prosodically.

Erteschik-Shir identifies two sources of potential topics: discourse-specific entities, which are introduced in the conversation, and permanently available entities. John, the topic in (2)-(4), is an example of topic drawn from the current discourse. Permanently available entities, on the other hand, include fixtures of the world, such as the sun, the moon and the Eiffel Tower, as well as the *stage*, i.e. the time and location of the conversation, and the *speech act participants*, i.e. the speaker and addressee. Fixtures of the world are entities that are part of the interlocutors' world knowledge, and as such are always available as potential topics. The *stage* and speech act participants, on the other hand, are part of the grammar.

In the remainder of this paper we apply and extend these elements of F-structure theory to account for the distinctive properties of ImpSubjs. In the next section, we survey a range of different ImpSubjs and demonstrate that they serve as different types of topics. In section 4, we exploit the fact that the *addressee* is always available as a potential topic to explain the fact that the canonical realization of an ImpSubj is a null pronoun.

3. All imperative subjects are topics

The literature has amply documented the fact that ImpSubjs are canonically realized as a null 2nd person pronouns (*pro*), but that they may alternatively be realized as an overt 2nd person pronoun, a quantified DP, or as other types of full DPs (see Bolinger 1967, Potsdam 1996, Rupp 2003, among many others). In this section, we argue that the well-formedness of different types of DPs as the ImpSubj in a given context depends on the information structure role of that ImpSubj. We present examples of imperative sentences with ImpSubjs realizing the different types of topics in Erteschik-Shir's typology, and show that continued, contrastive and restrictive topics are expressed by different types of DPs.

We begin with continued topics. Recall that for Erteschik-Shir (1997, 2007), a continued topic has a co-referential antecedent in the discourse. In English, a continued topic is most commonly realized as an unstressed pronoun. There is one glaring exception to this generalization: If the continued topic is an ImpSubj, it cannot be realized as an unstressed pronoun, but rather, must be realized as *pro*. These facts are exemplified in **Error! Reference source not found.**:

- (5) **John_j**, can **you_j** buy some milk? ...
- a. And *pro_j* mail this letter while you're out.
 - b. And #YOU_j/you_j mail this letter while you're out.
 - c. And can you_j/#YOU_j/**pro_j* mail this letter while you're out?
 - d. And you_j/#YOU_j/**pro_j* should also mail this letter while you're out.

At the beginning of his/her utterance in this example, the speaker identifies *John* as the addressee using an initial vocative phrase (bolded in the first line). The grammatical subject of the question is realized as a pronoun referring back to *John*, the topic of this

sentence.³ John is also the (continued) topic in the ensuing discourse. In the imperative clause in (5a), the ImpSubj *pro* refers back to *John*, and the sentence is felicitous. However, when *pro* is replaced with either a stressed or an unstressed pronoun, as in (5b) *John*, the result is infelicitous. In (5) and (5) we see that when the speaker continues with an interrogative or declarative clause, respectively, the continued topic must be realized as an unstressed pronoun, and the sentence is infelicitous when it is replaced with a stressed pronoun (because in this context it is not contrastive), and ungrammatical when it is replaced with *pro* (because English does not allow null subjects in declaratives or interrogatives).

Next, we show that the ImpSubj can also function as a contrastive topic, and that when it does so, it may be realized as a contrastively stressed second person pronoun, but not as *pro*. Recall that a contrastive topic is used whenever there is a clearly defined set of alternatives that the speaker is eliminating. We suggest that this exactly what is happening in the discourse in (6) below.

- (6) Context: John and Mary are arguing.
 John: Shut up!
 Mary: No, **YOU** shut up. ✓ contrastive topic
 #No, *pro* SHUT UP. ✗ continued topic

In this example, John tells Mary to ‘shut up’ and she responds by refusing this command, and then commanding him to ‘shut up’. By using the negative particle and the contrastively stressed pronoun *YOU*, Mary signals not only that *John* should stop talking, but that she will not. The topic set for Mary’s retort consists of the two interlocutors. By identifying the focal member of that set as the addressee, Mary is indicating that she is eliminating the alternative (i.e. herself, the speaker) as somebody who should ‘shut up’.

Quantifiers can also serve as ImpSubjs, and when they do they always quantify over the set of addressees, and, we contend, they are always interpreted as topics. However, different quantifiers serve as different types of topics. We show here that *nobody* is always a contrastive topic, and below we argue that *somebody* is always a restrictive one. The use of *nobody* as an ImpSubj is exemplified in (7):

- (7) Context: John and his friends, Abe, Bill and Chuck, are at a bar. He says to them, “Hey guys, I’m the designated driver tonight. **NOBODY** buy me a beer.”

In this example, the set of alternatives to *nobody* includes all addressees, both individually and collectively, i.e. it includes each of John’s friends, Abe, Bill, and Chuck, as well as groups consisting of two or all three of them, i.e. {Abe, Bill}, {Abe, Chuck}, {Bill, Chuck} and {Abe, Bill, Chuck}. John’s request to his friends that *nobody* buy him a beer is felicitously interpreted as meaning that not even one of them should do so. In

³ In Ritter and Wolf (2016, in prep.), we analyse initial vocatives as foci and final vocatives as continued topics. We point out that the contrast between initial and final vocatives in imperatives parallels that between topicalized and right-dislocated topics in Catalan, cf. Vallduvi (1992) and Erteschik-Shir (1997).

other words, *nobody* quantifies over the set of addressees, and is contrastive in the sense that it eliminates the possibility that the request for a beer is directed at any of the alternatives, i.e. Abe and/or Bill and/or Chuck.

Next, we turn to ImpSubjs that serve as restrictive topics. Recall that restrictive topics partition a contextually established topic set, but do not eliminate alternatives. They must be overt, but do not bear contrastive stress. An example is given in (8):

- (8) Context: A teacher addressing her students: Alright class, let's get started...
- a. **One of you** tell me what today's date is. ✓ restrictive topic
 - b. **#ONE of you** tell me what today's date is. ✗ contrastive topic

One of you is a restrictive topic because the teacher's utterance may be felicitously interpreted as a request that one *or more* of her students answer the question. If two students volunteered the answer, that response would also fulfil the teacher's request. In other words, the partition *one of you* in this example does not eliminate the alternatives, two or more of you. This is exactly what we expect if the ImpSubj is a restrictive topic. Note that the teacher's utterance is infelicitous if the ImpSubj is contrastively stressed. This is because *one of you* is not a contrastive topic in this context. It would be distinctly odd for the teacher to utter (8b) with the intention that exactly one student respond.

Like *one of you*, *somebody* can be a restrictive topic, but not a contrastive one:

- (9) Context: John and his friends, Abe, Bill and Chuck, are at a bar. He says to them, "Hey guys, I'm not the designated driver tonight! ..."
- a. **Somebody** buy me a beer" ✓ restrictive topic
 - b. **#SOMEBODY** buy me a beer." ✗ contrastive topic

This example is similar to (8) above: John's utterance is felicitously interpreted as a request that one or more of his friends buy him a beer. If two or even all three of his friends buy John a beer his request will be fulfilled. Thus, like *one of you*, the partition *somebody* in this example does not eliminate alternatives. This is the interpretation associated with (9a). Again, if the quantifier is contrastively stressed, as in (9b), this would signal that the ImpSubj was to be interpreted as a contrastive topic, and the result would be infelicitous, as it would signal John's intention that exactly one person - and not more than that - buy him a beer.

We have now seen that *nobody* can only serve as contrastive topic, and that *somebody* can only serve as a restrictive topic. Now observe that the quantifier *everybody* can serve as either a contrastive topic or a restrictive one:

- (10) a. Context: Teacher addressing a class of students writing a test.
Time is up. **EVERYBODY** (= **all of you**) put down your pencils.
(...#**John**, you can keep writing.)
- b. Context: A family has just arrived at grandma's house:
Come on in! You must be hungry after that long drive.
Everybody (= **all or most of you**) come have something to eat. (**John**,
you can go right up to bed if you're tired.)

In both examples in (10), the ImpSubj *everybody* is a shifted topic that quantifies over the set of addressees, which, we argue, constitutes the topic set. They differ however, in that the ImpSubj in (10) is a restricted topic while the ImpSubj in (10) is contrastive one. *Everybody* in (10) is felicitously interpreted as referring to all students in the class. In uttering this instruction, the teacher is eliminating all alternatives where only a proper subset of students is required to put down their pencils. This is why it is infelicitous for her to then tell one of the students to ignore the instruction. In contrast, (10) may be interpreted as referring to either all or most of the family members. In uttering this invitation, the grandma is not eliminating alternatives where some family members eat and others do not. In this case, she can tell one of them to go to bed without eating first.

Summarizing the discussion in this section, we have demonstrated that information structure plays a critical role in determining the choice between null and overt 2nd person pronouns as ImpSubjs, and between contrastively and non-contrastively stressed overt pronouns. Applying Erteschik-Shir's typology of topics, we have analyzed *pro* as a continued topic, and shown that *you* is infelicitous as a continued topic. (See section 4 below for arguments that *pro* can also serve as a default topic when the imperative clause is uttered in an out of the blue context, or as the first utterance in a discourse.) Next we showed that when the ImpSubj is a contrastively stressed second person pronoun, it must be interpreted as a contrastive topic, i.e. it refers to one member in a topic set, and eliminates all alternatives; otherwise an overt second person pronoun is a restrictive topic, i.e. it refers to one member in a topic set, but does not eliminate all alternatives. We also analyzed quantified ImpSubjs as shifted topics, arguing that *nobody* is a contrastive topic, *somebody* is a restrictive one, and *everybody* may be either.

We also noted that the ImpSubj is an exceptional continued topic in English, because it is realized as *pro* whereas in other contexts, English requires an overt unstressed pronoun to play this information structure role. In the next section, we offer an explanation for this fact that exploits the distinctive properties of the imperative clause type.

4. Null imperative subjects are dropped topics

In this section, we address the question of why ImpSubjs can be *pro* when the subjects of other clause types cannot. We propose that there is an interaction between topicality and the distinctive semantic properties of the imperative clause type. As discussed in section 3, an ImpSubj must be realized as *pro* when it is a continued topic; but subjects of other clause types must be overt pronouns when they are continued topics. Now observe that

there is a second context in which the ImpSubj must be realized as *pro* – when it is a topic that is neither shifted nor continued from the previous discourse:

- (11) Store clerk: What'll it be?
 Customer: *pro/#you* give me a pack of Camels.
 Customer': Can *you/*pro* give a pack of Camels?

It seems that (a) the ImpSubj is always a topic and (b) if the ImpSubj is a non-shifted topic, i.e. if it is neither a restrictive nor a contrastive topic, *pro* is obligatory. These properties of imperatives are different from other clause types.

Recall that for Erteschik-Shir (1997, 2007), possible topics include discourse specific topics which must be introduced into conversation, and *permanently available topics*, which include fixtures of the world such as the sun, the moon and the Eiffel Tower, as well as the *stage* (the time and place under discussion), and the speech act participants (the speaker and addressee). Permanently available topics play a crucial role in so-called *all-focus sentences*. These are sentences that have no apparent topic. Since Erteschik-Shir (1997) assumes that all sentences must have a topic, she reasons that an all-focus sentence, which is devoid of an explicit topic, must have an implicit one. She further proposes that this topic is a default option taken from the *permanently available topic set*, and specifically, that it is a dropped *stage topic*, i.e. a null topic that refers to the time and place under discussion.

- (12) A: How was [last night's party]_i?
 B: [Last night's party]_i was great. overt stage topic
- (13) A: How was [last night's party]?
 B: Stage_{top} Mary/I brought champagne null stage topic

Significantly, Erteschik-Shir's proposal that the topic in an all-focus sentence is based on the analysis of declarative clauses. While we adopt her assumption that every sentence must have a topic, as well as her proposal that an all-focus declarative sentence has a dropped default *stage* topic, we hypothesize that different clause types have different droppable default topics drawn from the *permanently available topic set*.

This raises the following question: Why is the *stage* the default topic in an all-focus declarative? We suggest that the answer lies in the propositional nature of declaratives. More specifically, declaratives correspond to propositions and propositions are evaluated for truth based on the time and place of utterance (cf. Kaplan's (1989) *circumstances of evaluation* $\langle \text{time}, \text{world} \rangle$). There is a minor difference in that Erteschik-Shir's *stage* is the time and place under discussion, rather than the time and place of utterance. However, this difference disappears when we take into account the fact that in examples such as (13) the *stage* is introduced by the first conversational participant. In an out of the blue all-focus sentence, in which no *stage* is introduced, the dropped stage topic is always the time and place of utterance, as illustrated in (14):

- (14) A: Hi. Good to see you again.
 B: Hi. Good to see you too. Stage_{top} I brought champagne.

Even though B's utterance is a past tense sentence in this example, it is evaluated relative to the time and place of the utterance.

We propose that imperative all-focus sentences also draw their topic from the *permanently available topic* set, but that they utilize a null *addressee*, rather than a null *stage topic*, as shown in the following example:

- (15) Store clerk: What'll it be?
 Customer: *pro/#You* give me a pack of Camels.

It seems that in English only default topics may be phonetically null⁴. Why is the *addressee* the default topic in an all-focus imperative? The answer lies in the non-propositional nature of imperatives. Recall that the topic affects the evaluation of all sentences, and that all-focus declaratives are evaluated for truth based on the stage. We assume, following common wisdom, that while declaratives are evaluated for *truth*, imperatives are evaluated in a different manner, one that crucially relies on the addressee. For concreteness, we adopt the theory of imperatives due to Portner (2004, 2007) in which the denotation of an imperative is a *property*, and not a proposition. Thus, while declaratives are evaluated for truth based on indices pertaining to the proposition, i.e. *time* and *world*, imperatives are evaluated based on indices pertaining to the appropriate property. This property is, importantly a property of an individual, i.e. an evaluation of imperatives depends on whether this property holds, and importantly this depends on the *addressee*. As is stated in Portner (2004): "We hypothesize that an imperative denotes a property which can only be true of the addressee." And similarly to the manner in which the denotation of declaratives, a proposition, is added to the conversational *common ground* (Stalnaker 1978), so the denotation of imperatives, a property, is added to a conversational *to-do list* (cf. also Han's (1998) *plan-set*). The *to-do list* is a (possibly different) set of properties that each conversational participant holds, and all conversational participants mutually assume that each will try to bring about. Thus, since the properties in the addressee's *to-do list* are properties that the addressee is committed *to do*, the imperative's evaluation depends upon whether the addressee holds the appropriate property.

We are now in a position to answer the question presented at the beginning of this section: Why can an ImpSubj be *pro* while subjects of other clause types cannot? Though we have only considered declaratives and imperatives, we assume that Erteschik-Shir's (1997, 2007) proposal that all-focus sentences require an implicit topic holds for all clause types. In an all-focus declarative, such as (16), the denotation is a proposition and the implicit topic is the *stage*, as discussed above. In an all-focus interrogative, such

⁴ An exception to this generalization is the fact that objects may be dropped topics in imperative clauses if the subject is also a dropped topic (cf. Massam and Roberge 1989, Ruda 2014, Massam, Bamba and Murphy to appear). See Erteschik-Shir et al. 2013 for discussion of similar facts for non-imperative sentences in Russian and Hebrew.

as (16), the denotation is a set of propositions (*inter alia*, Hamblin 1973, Karttunen 1977). Hence, the implicit topic in this example is also the *stage*. However, in (16), the implicit topic is the addressee, as discussed above.

- (16) a. Stage_{top} It is raining.
 b. Stage_{top} Is it raining?
 c. Addressee_{top} Dance!

In short, there are two key differences between declaratives and interrogatives, on the one hand, and imperatives, on the other. First, the ImpSubj always refers to the addressee but the subjects of other clause types are not constrained in this way, and second, all ImpSubjs are topics but the subjects of other clause types need not be. What makes ImpSubjs distinct is that they are always recoverable via the *permanently available topic* set. In declaratives and interrogatives that are *not* all-focus sentences, the subject can be different from the *stage*, and hence is not necessarily a member of the *permanently available topic* set, not recoverable, and thus, cannot be null.

5. Conclusion

In conclusion, we have argued that the distinctive syntactic properties of English imperative clauses follow from their distinctive information structure properties. Adopting Erteschik-Shir's (1997, 2007) F-structure theory of information structure, we assume that all clauses have a topic. Erteschik-Shir argues that the *stage*, which identifies the here and now of the discourse, serves as a default topic, and that clauses with no other topic have a dropped default topic. We have extended Erteschik-Shir's theory, proposing that different clause types have different defaults, and specifically that while declaratives and interrogatives have a default *stage* topic, imperatives have a default *addressee* topic. Our approach to imperatives builds on the insights of Portner, (2004, 2007) and Han (1998), that imperatives serve to instruct the addressee to update his/her *to-do list* (or *plan set*).

Like default *stage* topics in declaratives, default *addressee* topics in imperatives are droppable. We suggest that this property of default topics accounts for the fact that the ImpSubj is most often phonetically null. The second person features of the null ImpSubj derive from the fact that its referent is the addressee:

- (17) Null ImpSubj is a dropped topic:
 Addressee_{top} buy me a beer.

As for overt ImpSubjs, we analyse these as shifted topics, either contrastive or restrictive, both of which identify a focal individual from a topic set of alternatives. A contrastive shifted topic has distinctive contrastive stress, and signals that the alternatives in the topic set are eliminated. A restrictive shifted topic, on the other hand, lacks contrastive stress, and does not eliminate alternatives.

(18) Overt ImpSubj is a shifted topic:

- [{One of you/Somebody_{FOC}, alternatives }_{Restrictive-topic}] buy me a beer.
 [{Nobody/YOU_{FOC}, alternatives }_{Contrastive-topic}] buy me a beer.

This approach to imperatives exploits Erteschik-Shir's claim that, like the *stage*, the *addressee* is a *permanently available topic* whose identity is fixed by the discourse. This IS-based analysis permits an account of the distinctive properties of imperatives without *ad-hoc* stipulative mechanisms specific to the clause type. What remains to be explained is why the ImpSubj *must* be a topic on our analysis. We note that for Erteschik-Shir, the *stage* is always a *potential* topic, but need not be an *actual* topic (in declarative clauses). Future research should also determine whether our IS-based analysis can shed new light on the relationship between null objects and null subjects in imperatives (Massam and Roberge, 1989, Ruda 2014, Massam, Bamba and Murphy to appear), and on the often subtle differences between overt ImpSubjs and initial vocative phrases in imperatives.

References

- Bolinger, Dwight 1967. The imperative in English. In *Janua Linguarum 1: To honor Roman Jakobson: Essays on the occasion of his seventieth birthday*, 335–362. The Hague, Paris: Mouton.
- Collins, Chris, and Paul Martin Postal. 2012. *Imposters: A study of pronominal agreement*. MIT Press.
- Erteschik-Shir, Nomi. 1997. *The dynamics of focus structure*. Cambridge, UK: Cambridge University Press.
- Erteschik-Shir, Nomi. 2007. *Information structure: The syntax-discourse interface*. Oxford: Oxford University Press.
- Erteschik-Shir, Nomi, Lena Ibn-Bari, and Sharon Taube. 2013. Missing objects as topic drop. *Lingua* 136: 145-169.
- Hamblin, Charles L. 1973. Questions in Montague English. *Foundations of Language* 10.1: 41-53.
- Han, Chung-Hye. 1998. The structure and interpretation of imperatives: Mood and force in universal grammar. Doctoral dissertation, University of Pennsylvania.
- Kaplan, David. 1989. Demonstratives. In *Themes from Kaplan*, eds. Joseph Almog, John Perry and Howard Wettstein, 481-563. Oxford: Oxford University Press.
- Karttunen, Lauri. 1977. Syntax and semantics of questions. *Linguistics and Philosophy* 1: 3-44.
- Massam, Diane, Kazuya Bamba and Patrick Murphy. To appear. Obligatory null pronouns in the instructional register and beyond. *Linguistic Variation*.
- Massam, Diane and Yves Roberge. 1989. Recipe context null objects in English. *Linguistic Inquiry* 20: 134-139.
- Pierrehumbert, Janet and Julia Bell Hirschberg. 1990. The meaning of intonational contours in the interpretation of discourse. In *Intentions in communication*, ed. Philip R. Cohen, Jerry L. Morgan, and Martha E. Pollack, 271-311. Cambridge, MA: MIT Press.
- Portner, Paul. 2004. The semantics of imperatives within a theory of clause types. In *Proceedings of SALT 14*, ed. Robert B. Young, 235-252. Ithaca, NY: Cornell Linguistics Publications.
- Portner, Paul. 2007. Imperatives and modals. *Natural Language Semantics* 15: 351–83.
- Potsdam, Eric. 1996. *Syntactic Issues in the English Imperative*. Doctoral dissertation, University of California, Santa Cruz.
- Reinhart, Tanya. 1981. *Pragmatics and linguistics: An analysis of sentence topics*. Bloomington: Indiana Linguistics Club.
- Ritter, Elizabeth and Lavi Wolf. 2016. The information structure of imperatives. Paper presented at Workshop on Word order variation at the interfaces, Ben-Gurion University of the Negev, Beer Sheva.
- Ritter, Elizabeth and Lavi Wolf. In prep. *Imperatives, Topics and Vocatives*. Ms. Ben Gurion University of the Negev and University of Calgary.

- Ruda, Marta. 2014. Missing objects in special registers: The syntax of null objects in English. *The Canadian Journal of Linguistics* 59: 339-372.
- Rupp, Laura. 2003. *The syntax of imperatives in English and Germanic: Word order variation in the minimalist framework*. Basingstoke: Palgrave Macmillan.
- Stalnaker, Robert C. 1978. Assertion. *Syntax and Semantics 9: Pragmatics*, ed. Peter Cole. New York: Academic Press.
- Vallduví, Enric. 1992. A preverbal landing site for quantificational operators. *Catalan Working Papers in Linguistics* 2: 319-343. Barcelona: Universitat Autònoma de Barcelona.
- Watson, Duane G., Michael K. Tanenhaus and Christine A. Gunlogson. 2008. Interpreting pitch accents in online comprehension: H* vs. L+H. *Cognitive Science* 32: 1232-1244.